

WHAT IS CLAIMED IS:

- 1 1. An apparatus for use in a hybrid fiber coax (HFC) network
2 to provide the HFC forward path spectrum from the head end to a network fiber
3 node, the apparatus comprising:
4 a head end modulator directly receiving a switchable digital data
5 signal and internally processing the switchable digital data signal to produce the
6 HFC forward path spectrum that directly drives the network fiber node.
- 1 2. The apparatus of claim 1 wherein the head end modulator
2 generates an analog optical signal for the network fiber node.
- 1 3. The apparatus of claim 1 wherein the head end modulator
2 processes the switchable digital data signal to dynamically allocate bandwidth to
3 different services.
- 1 4. The apparatus of claim 1 wherein the switchable digital data
2 signal is received in the form of a 1GigE signal.
- 1 5. The apparatus of claim 1 wherein the switchable digital data
2 signal is received in the form of a 10GigE signal.
- 1 6. The apparatus of claim 1 wherein the switchable digital data
2 signal is received as a single digital data signal input.
- 1 7. The apparatus of claim 1 wherein the switchable digital data
2 signal is received as a plurality of digital data signal inputs.
- 1 8. A method for use in a hybrid fiber coax (HFC) network to
2 provide the HFC forward path spectrum from the head end to a network fiber node,
3 the method comprising:
4 directly receiving a switchable digital data signal at a head end
5 modulator; and

6 processing the switchable digital data signal, at the head end
7 modulator, to produce the HFC forward path spectrum that directly drives the
8 network fiber node.

1 9. The method of claim 8 further comprising:
2 generating an analog optical signal, with the head end modulator, for
3 the network fiber node.

1 10. The method of claim 8 wherein the head end modulator
2 processes the switchable digital data signal to dynamically allocate bandwidth to
3 different services.

1 11. The method of claim 8 wherein the switchable digital data
2 signal is received in the form of a 1GigE signal.

1 12. The method of claim 8 wherein the switchable digital data
2 signal is received in the form of a 10GigE signal.

1 13. The method of claim 8 wherein the switchable digital data
2 signal is received as a single digital data signal input.

1 14. The method of claim 8 wherein the switchable digital data
2 signal is received as a plurality of digital data signal inputs.

1 15. A system for use in a hybrid fiber coax (HFC) network to
2 provide the HFC forward path spectrum from the head end to a plurality of network
3 fiber nodes, the system comprising:
4 a plurality of head end modulators, each modulator directly receiving
5 a switchable digital data signal and internally processing the switchable digital data
6 signal to produce the HFC forward path spectrum that directly drives an associated
7 network fiber node,

8 wherein each individual modulator processes its received switchable
9 digital data signal to dynamically allocate bandwidth to different services to provide
10 an essentially narrow cast approach among the plurality of modulators.

1 16. The system of claim 15 wherein each head end modulator
2 generates an analog optical signal for the associated network fiber node.

1 17. The system of claim 15 wherein the switchable digital data
2 signal is received in the form of a 1GigE signal.

1 18. The system of claim 15 wherein the switchable digital data
2 signal is received in the form of a 10GigE signal.

1 19. The system of claim 15 wherein the switchable digital data
2 signal is received as a single digital data signal input.